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**AMENDMENTS TO THE CLAIMS:**

*Set forth below in ascending order, with status identifiers, is a complete listing of all claims currently under examination. Changes to any amended claims are indicated by strikethrough and underlining. This listing also reflects any cancellation and/or addition of claims.*

**Claim 1 (currently amended)**

A method for isolating a component of a chemical mixture, comprising:

- (a) identifying an analytical retention time and corresponding analytical chromatographic parameters for eluting the component through an analytical column;
- (b) based on the analytical retention time and the corresponding analytical chromatographic parameters, determining preparative chromatographic parameters to isolate the component at ~~an~~ pre-selected accelerated retention time using a preparative column that is different from the analytical column;
- (c) eluting the chemical mixture through the preparative column using the preparative chromatographic parameters; and
- (d) isolating the component at the pre-selected accelerated retention time.

**Claim 2 (cancelled)****Claim 3 (currently amended)**

The method of claim 1, wherein the pre-selected accelerated retention time is associated with a reduced retention volume for the component.

**Claim 4 (previously amended)**

The method of claim 1, further comprising eluting the component through the analytical column using the analytical chromatographic parameters.

**Claim 5 (previously amended)**

The method of claim 1, wherein eluting the chemical mixture comprises:

- (i) varying a composition associated with a mobile phase for a gradient time interval;

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and

- (ii) injecting the mobile phase into the preparative column.

**Claim 6 (original)**

The method of claim 5, wherein varying the composition associated with the mobile phase comprises varying a polarity of the mobile phase in a linear gradient for the gradient time interval.

**Claim 7 (previously amended)**

The method of claim 6, wherein the analytical chromatographic parameters include a gradient steepness parameter, and wherein determining the preparative chromatographic parameters comprises determining the preparative chromatographic parameters while holding the gradient steepness parameter constant.

**Claim 8 (previously amended)**

The method of claim 5, wherein determining the preparative chromatographic parameters comprises determining an initial composition associated with the mobile phase.

**Claim 9 (previously amended)**

The method of claim 5, wherein determining the preparative chromatographic parameters comprises determining a final composition associated with the mobile phase.

**Claim 10 (previously amended)**

The method of claim 5, wherein determining the preparative chromatographic parameters comprises determining the gradient time interval.

**Claim 11 (currently amended)**

A gradient elution chromatography method, comprising:

- (a) identifying a component in a chemical mixture;
- (b) identifying a first set of gradient elution parameters to elute the component through a first column at a first elution time;

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- (c) selecting a second elution time;  
(d) using the first set of gradient elution parameters, determining a second set of gradient elution parameters to elute the component through a second column at the second elution time, wherein the first column and the second column have different sizes; and  
(d)(e) eluting the chemical mixture through the second column using the second set of gradient elution parameters.

**Claim 12 (original)**

The gradient elution chromatography method of claim 11, further comprising collecting the component within a time interval that includes the second elution time.

**Claim 13 (original)**

The gradient elution chromatography method of claim 11, wherein the first set of gradient elution parameters and the second set of gradient elution parameters include the same gradient steepness parameter.

**Claim 14 (previously amended)**

The gradient elution chromatography method of claim 11, wherein determining the second set of gradient elution parameters comprises adjusting an initial composition of a mobile phase to elute the component through the second column at the second elution time.

**Claim 15 (previously amended)**

The gradient elution chromatography method of claim 11, wherein determining the second set of gradient elution parameters comprises adjusting a gradient time interval during which a mobile phase composition is varied to elute the component through the second column at the second elution time.

**Claim 16 (previously amended)**

The gradient elution chromatography method of claim 11, wherein identifying the component comprises eluting a first portion of the chemical mixture through the first column using the first set of gradient elution parameters, and eluting the chemical mixture through the

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second column comprises eluting a second portion of the chemical mixture through the second column using the second set of gradient elution parameters.

Claim 17 (currently amended)

A method to separate a component of a chemical mixture, comprising:

- (a) identifying the component by eluting a first portion of the chemical mixture through a first column using a first set of gradient elution parameters;
- (b) identifying a first retention time for the component associated with the first column and the first set of gradient elution parameters;
- (c) selecting a second retention time;
- (d) using the first retention time and the first set of gradient elution parameters, determining a second set of gradient elution parameters to elute the component through a second column at the second retention time, wherein the first column and the second column have different sizes; and
- ~~(d)~~(e) separating the component by eluting a second portion of the chemical mixture through the second column using the second set of gradient elution parameters.

Claim 18 (original)

The method of claim 17, wherein the first column is an analytical column, and wherein the second column is a preparative column.

Claim 19 (original)

The method of claim 17, wherein the first column and the second column comprise the same stationary phase.

Claim 20 (previously amended)

The method of claim 17, wherein determining the second set of gradient elution parameters comprises determining an initial polarity associated with a mobile phase that is injected into the second column.

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**Claim 21 (original)**

The method of claim 17, wherein the first set of gradient elution parameters and the second set of gradient elution parameters are characterized by the same gradient steepness parameter.

**Claim 22 (previously added)**

The method of claim 1, wherein the analytical column and the preparative column have different sizes.

**Claim 23 (previously added)**

The gradient elution chromatography method of claim 11, wherein the first column and the second column have different diameters.

**Claim 24 (previously added)**

The gradient elution chromatography method of claim 11, wherein the first column and the second column have different lengths.

**Claim 25 (previously added)**

The method of claim 17, wherein a diameter of the second column is greater than a diameter of the first column.

**Claim 26 (previously added)**

The method of claim 17, wherein a length of the second column is greater than a length of the first column.

**Claim 27 (new)**

The method of claim 1, wherein determining the preparative chromatographic parameters comprises:

(i) based on the analytical retention time and the corresponding analytical chromatographic parameters, determining a scaled-up retention time and a scaled-up gradient time interval for eluting the component through the preparative column; and

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(ii) based on the scaled-up retention time and the scaled-up gradient time interval, determining the preparative chromatographic parameters.

**Claim 28 (new)**

The gradient elution chromatography method of claim 11, wherein determining the second set of gradient elution parameters comprises:

- (i) using the first set of gradient elution parameters, determining a third set of gradient elution parameters to elute the component through the second column at a scaled-up elution time; and
- (ii) using the third set of gradient elution parameters, determining the second set of gradient elution parameters.

**Claim 29 (new)**

The method of claim 17, wherein determining the second set of gradient elution parameters comprises:

- (i) using the first retention time and the first set of gradient elution parameters, determining a third set of gradient elution parameters to elute the component through the second column at a scaled-up retention time; and
- (ii) using the scaled-up retention time and the third set of gradient elution parameters, determining the second set of gradient elution parameters.

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